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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,733

10/17/2005

Yukie Mori

124684

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25944 7590 05/28/2009

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EXAMINER

BAISA, JOSELITO SASIS

ART UNIT

PAPER NUMBER

2832

MAIL DATE

DELIVERY MODE

05/28/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,733	Applicant(s) MORI ET AL.	
	Examiner JOSELITO BAISA	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 10-12, 21, 22, 25, 26 and 29-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 10-12 is/are allowed.
- 6) ☒ Claim(s) 21, 22, 25, 26 and 29-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 28 April 2009 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21, 22, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsumune [JP2001085203] in view of Shirai et al. [20040048127A1].

Regarding claims 21 and 29, Mitsumune discloses resin including an electric conductor (electrode and conductive member) includes mainly at least a compound having carbon cluster (C₆₀) [Paragraph 9]. Carbon cluster (C₆₀) has a 6:5 bond (5-membered ring and 6-membered ring), wherein the electric conductor is dispersed in the resin [Paragraph 10-12].

Mitsumune further discloses a plurality of conductor particles having resin particles formed from the resin and a conductive layer formed on the surface of the resin particles and formed from the electric conductor are piled up {Abstract, Paragraph 19}.

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Mitsumune discloses the instant claimed invention discussed above except for the carbon cluster was mentioned to have at least one 5-membered ring, at least one 6-membered ring and has an open end.

Shirai discloses carbon clusters that are by-product in the fullerene manufacturing process employing arc discharge has often open end structure [Page 4, Paragraph 55].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use carbon cluster that have at least one 5-membered ring, at least one 6-membered ring and has an open end as taught by Shirai to the structure of Mitsumune.

The motivation would have been this characteristic provides higher reactivity of the electrochemical device [Page 4, Paragraph 55].

Regarding claims 22 and 30, Mitsumune in view of Shirai disclose the preparation process of fullerene involving oxygen and hydrogen atom except for the claimed conductor includes oxygen atoms of 0.5 to 30 mass% and hydrogen atoms of 0.05 to 1 mass%.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to alter the oxygen and hydrogen content since applicant has not disclosed that a oxygen atoms of 0.5 to 30 mass% and hydrogen atoms of 0.05 to 1 mass% solves any stated problem or is for any particular purpose and it appears that the invention of Mitsumune in view of Shirai would perform equally well with the Applicant's invention.

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Claims 25, 26, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsumune [JP2001085203] in view of Hinokuma et al. [6495290].

Regarding claims 25 and 31, Mitsumune discloses resin including an electric conductor (electrode and conductive member) includes mainly at least a compound having carbon cluster, wherein the electric conductor is dispersed in the resin and formed from the electric conductor are piled up [Paragraphs 9, 10-12 and 19].

Mitsumune discloses the instant claimed invention discussed above except for the carbonaceous compound having a non-peak distribution due to its amorphous structure in a region where 2θ is 30 degree or less in an X-ray diffraction spectrum.

Hinokuma discloses carbon derivative that has amorphous structure whose impedance behavior is similar to the carbon compound measured in an X-ray diffraction spectrum [Col. 26, Lines 5-27].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the carbon compound taught by Hinokuma to the structure of Mitsumune.

The motivation would have been for the electrical characteristic (impedance and conductivity) of the carbonaceous compound cluster be used in electrochemical devices [Col. 26, Lines 5-16].

Regarding claims 26 and 32, Mitsumune in view of Hinokuma disclose the preparation process of fullerene involving oxygen and hydrogen atom except for the claimed conductor includes oxygen atoms of 0.5 to 30 mass% and hydrogen atoms of 0.05 to 1 mass%.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to alter the oxygen and hydrogen content since applicant has not disclosed

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that a oxygen atoms of 0.5 to 30 mass% and hydrogen atoms of 0.05 to 1 mass% solves any stated problem or is for any particular purpose and it appears that the invention of Mitsumune in view of Hinokuma would perform equally well with the Applicant's invention.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance:

1. Claims 1-3 and 10-12 are allowed.

2. The following is an examiner's statement of reasons for allowance:

Claims 1 and 10 recite, inter alia, *electric conductor consisting a residual material of a synthetic carbonaceous material including fullerenes; fullerenes concentration is 0.5 ppm to 10 mass %; and the C_{60}/C_{70} ratio of the fullerene is 0.1 to 3.*

The reference of record does not teach or suggest the aforementioned limitation, nor would it be obvious to modify those references to include such limitation.

Response to Argument

Applicant's amendments with respect to claims 21, 22, 25, 26 and 29-32 have been considered but are not persuasive.

Applicant also amended claim 21, 25, 29 and 31 to recite "...a plurality of conductor particles having resin particles formed from the resin and a conductive layer formed on the surface of the resin particles and formed from the electric conductor are piled up...".

Mitsumune further discloses a plurality of conductor particles having **resin** particles formed from the resin and a conductive layer formed on the surface of the resin particles and

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formed from the electric conductor piled up. Mitsumune discloses in Abstract and in Paragraph 19 that conductive element comprises resin and conductive filler in its composition.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joselito Baisa whose telephone number is (571) 272-7132. The examiner can normally be reached on M-F 5:30 am to 2:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joselito Baisa
Examiner
Art Unit 2832

/J. B./
Examiner, Art Unit 2832
/Lincoln Donovan/
Supervisory Patent Examiner, Art Unit 2816